

## PLATFORM SCANNER

### FIELD OF THE INVENTION

[0001] This invention relates to a platform scanner, particularly to a learning aid  
5 tool of image input device for kids to learn words or painting before school age.

### BACKGROUND OF THE INVENTION

[0002] The scanner, which is already a matured product in the computer  
peripherals, is designed usually for professional people to scan and input images to  
a computer for storage or further processing.

10 [0003] As shown in Fig. 1, a generic platform scanner 10 has a scanning carrier  
11, which is disposed in the housing 20 of the scanner, for scanning and reading  
image data. The housing 20 is generally composed of a top and a bottom housing  
body 21, 22, in which a glass plate 12 for holding documents is provided to the top  
housing body 21, namely, a transparent glass plate 12 is mounted above the  
15 scanning carrier 11 to hold a document 13. Before scanning, the document 13 is  
firstly placed on the glass plate 12, then a document lid 14 is covered and the  
scanning carrier 11 is started and moved horizontally to scan and read the paper.

[0004] Fig. 2 shows a CIS (Contact image sensor) platform scanner. In this  
figure, a CIS module 15 disposed in the scanning carrier 11 comprises a light  
20 source 16, a lens 17, and a circuit board 18. The circuit board 18 further contains a  
photo-sensor 19, which is supposed to receive the image data reflected after  
travelling a trip (A) and penetrated through the lens 17. The signals of the image  
data of the document 13 sensed by the CIS module 15 are then inputted to a  
computer after conversion and processing.

25 [0005] Let's return to Fig. 1 again. The scanning carrier 11 is driven by a

transmission mechanism having a motor to move horizontally for scanning and reading a whole page image data of the document 13. The existing platform scanner, however, is not as acceptable as a toy to the kids before school age. Therefore, the whiteboard (handwriting board) or the like has been proposed for the sake of learning aids, which is imperfect as the learnt words or data cannot be stored and recalled for next-time reference or revision.

### **SUMMARY OF THE INVENTION**

[0006] The primary object of this invention is to provide a platform scanner for image input, which is a learning aid tool as acceptable as a toy to kids before school age.

[0007] Another object of this invention is to provide a platform scanner for image input, in which a scanning carrier is disposed at an outside portion of the scanner's housing, therefore it can be moved manipulatively for scanning and reading the data on a handwriting board.

[0008] In order to realize above said object, the platform scanner of this invention comprises a scanning carrier and an opaque handwriting board, in which the handwriting board is disposed on the top end of the housing, and the scanning carrier on the handwriting board; and one end of the scanning carrier is mounted on the transmission shaft such that the scanning carrier could be moved horizontally along the longitudinal direction of the transmission shaft for scanning and reading the data on the handwriting board for input of the same in a computer. A simple operation like this would scarcely lead to any wrong even to kids of school age.

[0009] For more detailed information regarding advantages or features of this invention, at least an example of preferred embodiment will be fully described below with reference to the annexed drawings.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

[0010] The related drawings in connection with the detailed description of this invention to be made later are described briefly as follows, in which:

Fig. 1 is a schematic view showing a conventional platform scanner;

Fig. 2 is a schematic view showing the scanning and reading state of a CIS module;

Fig. 3 is a schematic view of a platform scanner of this invention; and

Fig. 4 is a cutaway sectional view of the platform scanner of this invention.

## **DETAILED DESCRIPTION OF THE INVENTION**

[0011] The basic operating principle of a platform scanner of this invention is about the same with a conventional CIS (Contact image sensor) platform scanner, in which a scanning carrier scans and reads the image data, which is then converted and processed and inputted to a computer for storage or further use.

[0012] In Figs. 3 and 4, a scanner **30** of this invention has a scanning carrier **31** disposed at an outside portion of the housing **32** of the scanner. As a particularity of this invention, an opaque handwriting board **35** is located externally on the housing **32** and the scanning carrier **31** resided on the handwriting board **35** is moved horizontally and stably for scanning and reading image data thereof. A transmission shaft **33** is arranged on the scanner **30** in a direction parallel with the handwriting board **35**, and one end of the scanning carrier **31** is mounted on the transmission shaft **33** such that the scanning carrier **31** can scan and read the horizontal movement of the transmission shaft **33**.

[0013] Regarding to maintenance and control of the field depth between the handwriting board **35** and a CIS module (not shown) of the scanning carrier **31**, a

sliding piece 34 is padded on the housing 32 and under two ends of the scanning carrier 31 respectively, such that the CIS module would closely cling to the target (the handwriting board 35) by taking advantage of the gravity of the scanning carrier 31 while the sliding pieces 34 under the scanning carrier 31 are responsible to maintain and control the field depth between the CIS module and the target in order to keep scanning quality. Besides, the sliding pieces 34 might be substituted by roller wheels for improving smoothness of horizontal movement of the scanning carrier 31.

[0014] Another particularity of this invention is that the scanning carrier 31 can be manipulatively and horizontally moved in the scanning direction, namely, moved along the longitudinal direction of the transmission shaft 33 for data scanning and reading to thereby waive the known motor power transmission mechanism and reduce components required, and accordingly cost and time for assembling of a scanner.

[0015] Kids of school age may write or paint on the handwriting board 35 of the scanner 30 just like what they are used to do to a generic writing practice board, and simply control with hand to move the scanning carrier 31 horizontally for input of the words or paints they have just made to a computer for storage that can be recalled next time for review or revision.

[0016] In a preferred embodiment of this invention, the handwriting board 35 could be a whiteboard, and the transmission shaft 33 is mounted in the housing 32.

[0017] In the above described, at least one preferred embodiment has been described in detail with reference to the drawings annexed, and it is apparent that numerous variations or modifications may be made without departing from the true spirit and scope thereof, as set forth in the claims below.